

### Remarks

Claims 51-64, 71-84, 91-94 and 99 remain in the application.

The claimed invention includes fibrous nonwoven mats, useful as the scored and folded vertical webs spanning between an exposed mat and a backer mat in a compressible ceiling tile as disclosed and described in published U. S. Patent Application No. 20020020142, filed April 23, 2001, have the ability to, after being scored, folded, and compressed, to spring back to the original shape and orientation. The novel features of the fibrous nonwoven mats include the combination of components, limitations of the components and limitations on the basis wt. and thickness of the fibrous nonwoven mats that produce novel combinations of properties, a combination of properties are both unexpected and that permit the fibrous nonwoven mats to perform in a superior manner when scored and used as the collapsible webs in compressible ceiling tile than prior art mats. The fibrous nonwoven mats have a basis weight in the range of 2.3 to about 2.6 lbs./100 sq. ft., a thickness in the range of about 35 (claim 99) or 38 (rest of the claims) mils to about 48 mils and are comprised of a blend of fibers comprising at least about 88 wt. percent and up to about 92 wt. percent of glass fibers having diameters in the range of about 13 to about 17.5 microns and lengths in the range of about 0.7 to about 1.1 inches, and about 8 to about 12 wt. percent of polymer fibers selected from a group consisting of polyester, polypropylene, nylon, PBT, polyacrylonitrile and polybenzimidazole, often polyester fibers, the blend of fibers bound together with about 25 +/- 5 wt. percent and of a particular type of binder.

The claimed mats have excellent flame resistance and excellent and unexpected tensile strength, flex and recovery properties after scoring and folding, the mat passing the National Fire Protection Association's (NFPA) Method #701 Flammability Test as well as critical tensile strength and a Taber Stiffness of at least about 50, properties applicants discovered to be essential for the mat to be used as the collapsible web dividers in the ceiling tile of the type described in U.S. Published Patent Application No. 20020020142, also see Exhibit 1. As pointed out in the Summary section of the specification, these properties are unique and unexpected in nonwoven mats containing a majority of glass fibers bound together with an organic binder. Also, as pointed out in the Jaffee Declaration, Jaffee being an expert in nonwoven mat technology, being the inventor or co-inventor of 11 US patents, see

Exhibit A enclosed, and being aware of the contents of the references cited by the Examiner, made more than 100 different mats containing many different combinations of different fibers and different binders before a mat composition was tried that produced a mat that met the properties required for a mat to be used in the ceiling tile described above. Once that breakthrough was achieved, then ranges of variations, including those of the Examples set forth in the specification, were found that also met the requirements of the ceiling tile, and some combinations of variables produced mats having the better properties for this use than others although many could be used. If the invention would have been obvious to one of ordinary skill in the art, why would an expert in the art have to make more than 100 trials taking more than 54 days to find a solution to the problem?

An example of a ceiling tile of the type described in U.S. Published Patent Application No. 20020020142, this ceiling tile sample having nonwoven mat dividers 52 spanning an outer sheet 54 and a backing mat 56, the mat dividers being scored and functioning to fold to allow the ceiling tile to be compressed or collapsed to save space for packaging and shipping. The presently claimed mats are suitable for the scored and folding dividers 52 in this type of ceiling tile. Also presented is a Declaration by the inventor, one having more than ordinary skill in the nonwoven mat art. As taught in U.S. Published Patent Application No. 20020020142, "The dividers [52], on the other hand, while preferably being made of fiberglass, could be made of a carbon fiber mat, some papers, cardboards, woven materials, films, or combinations thereof, with the important feature being that they have some predetermined modulus of resiliency, similar to the specific materials identified above, which allows them to be folded but remain resilient. If the materials are to be creased to define fold lines as discussed above in connection with fiberglass material, it is important that the material retain the modulus of resiliency after having been creased, which, of course, is true with fiberglass or carbon fiber materials." and "As mentioned, numerous materials might have applicability in the present invention, but in the preferred mode, the connector sheet and the dividers are made of the same material, which is a fiberglass mat made by Johns-Manville Corporation and the mat may be one designated No. 5802 or one designated No. 5803 by Johns-Manville." The 5802 is a 120 g/m.sup.2 mat composed of 10% PET/65% 16-micron glass/25% MF. The 5803 is a 100 g/m mat composed of 12% PET/68% 16-micron glass/20% MF. MF is an abbreviation for melamine formaldehyde resin, which exhibits the characteristics of a thermoset resin. PET is an abbreviation for a polyethylene terephthalate. Dividers made

from either of the 5802 or 5803 material have the ability to expand with little or no addition of heat after having been creased and folded as described previously and after having been fully compressed. A more complete description of the Johns-Manville products and related products can be found in U.S. Pat. Nos. 5,840,413, 5,942,288, and 5,972,434, which are herein incorporated by reference. " The ceiling tile of U.S. Published Patent Application No. 20020020142 is a commercial product as shown by Exhibit 1 enclosed.

Claims 82-84, 91-94 and 99 stand rejected under 35 USC 112, second paragraph, as being indefinite because of the term "comprising a blend of fibers suitable for use ----- as described in U.S. Patent Application No. 20020020142 filed April 23, 2001," the Examiner stating that claims may not incorporate, or incorporate by reference, another publication, but once again citing no statute, rule, or case law to support this statement and the rejection. This rejection is traversed for the following reasons.

- 1) The reasons set out in the previous amendment filed on April 20, 2009.
- 2) Because once again the Examiner cannot find any basis for the rejection. The names of various tests, e.g. ASTM DXX, have been allowed in claims to further describe properties or features and is a reasonable short hand method of making the claims more concise and precise, as is the reference to the type of ceiling tile as the inventive compressible ceiling tile described in the Published Patent Application.
- 3) The Examiner states that applicants have failed to incorporate by reference the US Pub. Pat. App. No. 2002/002020142, but such is a public record and readily available on the internet, from the USPTO, etc., just like ASTM and other recognized test methods frequently used in patent claims. Dictionaries are not incorporated into patent applications, but dictionaries are frequently used to define words used in patent claims, and those planning to do something that might infringe a patent claim are expected to refer to ASTM or other test procedures used in the claims and to dictionaries to determine the meaning of any key word in the claims where that the scope of that word is not defined in the specification.
- 4) The Examiner urges that "Essential matter is clearly missing from the rejected claims as they fail to particularly point out and distinctly claim the invention as required", but this

is not right because the claims are similar to claims 51, et al and those claims are not rejected under 35 USC 112, second paragraph. The use of the reference to the compressible ceiling tile as described in U.S. Pub. Pat. Appl. 2002/002020142 simply distinguishes the type of ceiling tile and the type of folding webs from other compressible ceiling tiles such as those comprising a layer of fiber glass or other fibrous thermal & accoustical insulation. Those types of ceiling tiles are certainly compressible, but are very different than the compressible ceiling tile made from glass fiber mats disclosed in 2002/002020142. Is the Examiner urging that it would have been proper to include all the verbage used in this published patent application instead of the much more concise reference to the published patent application? How does that help to keep the costs of the USPTO down, the patent application and any published application and patent(s) smaller and more concise?

For these reasons applicants believe that the claims are definite and meet the requirements of 35 USC 112, second paragraph, and respectfully request the Examiner to withdraw this rejection and to allow all of the claims.

Claims 51-64, 71-84, 91-94 and 99 stand rejected under 35 USC 103 as being unpatentable over Jaffee in view of Arkens. The Examiner stated that it would have been obvious, in the sense of 35 USC 103, to have replaced the binder used by Jaffee with the binder taught by Arkens et al because both references involve fibrous mats and for the motivation of achieving a heat resistant mat without formaldehyde. This rejection is traversed for the following reasons:

- 1) The same reasons set out in the amendment filed on April 20, 2009, and
- 2) The Examiner states that he has considered the Rule 1.132 Declaration filed on August, 2006, but "has not found the declaration or its arguments persuasive in its position that the claimed invention is non-obvious in light of the applied prior art", however, the Examiner has not pointed out why the statements from one who is an expert in the art and who is the inventor of Jaffee above had to make more than 100 expensive trials taking more than 54 days before he found a mat that would perform, after scoring and folding, in a needed manner in the compressible ceiling tile of US Pub. Pat. App. 2002/002020142! Please refer to Exhibit 2 that lists some of Jaffee's patents that, along with his credentials set out in the above mentioned

Declaration, establish Jaffee as an expert in the wet laid nonwoven mat art.

3) The claimed mats differ from the mats of Jaffee '846 by more than just the type of binder used. Thus, even one of ordinary skill in the art knowledgeable of Jaffee, which Jaffee is and also being an expert in the art, would not reasonably run more than 100 expensive trials taking more than 54 days to find the answer if it was obvious to one of ordinary skill in the art as the Examiner urges. The Examiner has not explained why he believes otherwise.

4) A rejection under 35 USC 103 that uses the applicants' own disclosure as a roadmap or template to put together applicants' invention piecemeal while ignoring or discounting, without good reasons, evidence of non-obviousness is an improper hindsight reconstruction rejection.

3) The Examiner stated so long as his judgment takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicants' disclosure, a reconstruction is proper. Yes, but making the basis weight heavier and specific to 2.3 to about 2.6 lbs. along with the other differences in the limitations for the purpose of satisfying the need for strength and endurance after scoring and folding was gleaned from applicants' disclosure, was not taught or reasonably suggested in either Jaffee or Arken, and was not obvious to Jaffee as pointed out in the Jaffee Declaration. It is those differences that the Examiner learned from applicants' disclosure. The Jaffee vague teaching that the weight of the mat is unimportant certainly does not lead one of ordinary skill in the art to the claimed mats and certainly to the solution of an important problem that met a real need in the ceiling tile art. It is well established that a narrower range within the scope of a broad range is unobvious if it produces unexpected results, and such is the case with the claimed invention.

5) The fact that Jaffee '846 teaches away from the claimed invention is further evidence that the present rejection is an improper hindsight reconstruction rejection. The invention mats of Jaffee '846 had a stiffness that was substantially lower than 45, e.g. a stiffness of only 33 which Jaffee taught was important, see col. 6, lines 20-22. The Jaffee reference also lead the skilled artisan to mats having a basis wt. in the range of about 1.8 to about 2.2 lbs/100 sq. ft. and points towards about 2.1 lbs/100 sq. ft., see col. 2, lines 30-33. This teaching also leads the skilled artisan

away from the claimed invention. The Examiner seems to urge that 2.2 lbs./100 sq. ft. is close to 2.3 lbs./100 sq. ft. and therefore increasing the basis weight of the mats above that taught by Jaffee would be obvious in the sense of 35 USC 103, but in doing so the Examiner apparently overlooks the teachings in Jaffee that actually teach away from increasing the basis weight of his mats. The mats of the claimed invention have a basis weight in the range of about 2.3 to about 2.6 lbs/100 sq. ft., and the mats of claims 82 and 84 have basis weights significantly higher than 2.3 lbs/100 sq. ft. Basis weight of mat of same or similar composition affects mat thickness and stiffness with higher basis weights producing greater thickness and higher stiffness. Since Jaffee teaches greater flexibility is desirable, less stiffness, is desired, Therefore, Jaffee clearly teaches away from the basis weights of the claimed mats.

6) The Examiner urges that the motivation of using the binder taught by Arkens to replace the binder taught by Jaffee '846 in spite of the fact that the binder taught by Jaffee '846 contains no formaldehyde is apparently that the Arkens binder can be B staged, but this is also an improper hindsight reason because nothing in Arkens teaches or suggests that the Arkens binder would produce the surprising and unexpected properties of the claimed mats.

7) The Examiner asserts that applicants have not shown that applicants arguments are not germane because applicants have not compared the claimed invention to the Jaffee mats, but apparently the Examiner has overlooked the fact that Jaffee clearly teaches away from a Taber Stiffness of at least 50, a property critical to the claimed mats for the use in compressible ceiling tile, and that nothing in the teachings of Arken changes this direction to one of ordinary skill in the art.

For the above reasons applicants believe that the present claims are patentable under 35 USC 103 and respectfully requests the Examiner to withdraw this rejection and to allow all of the claims.

Applicants believe that the claims are in condition for allowance, but if the Examiner believes one or more issues still exist, to expedite disposal of this application

the Examiner is respectfully invited to call Applicants' attorney at the number listed below to discuss the issue or issues and a way of removing.

Respectfully submitted,

  
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